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DOD ANALYSIS OF THE SAUDI ARABIAN REQUEST TO PURCHASE F-15 FIGHTER AIRCRAFT

UNCLASSIFIED SUMMARY

Introduction

On 15 February 1977, the Saudi Arabian Minister of Defense and Aviation, Prince Sultan, sent a formal request to the US Ambassador to "convey the Saudi Government's desire to discuss with the USG the purchase of fighter planes (Model F-15) produced by the McDonnell Douglas Company." On 25 May 1977, Saudi Air Force representatives provided details of the Saudi requirement, requesting sale of 60 F-15 fighter aircraft with deliveries to begin in 1981. This formal Saudi request was the culmination of a four-year evaluation by the USG and Saudi Arabian Governments of the SAG's air defense needs.

The purpose of the DOD Analysis (classified SECRET) is to compile, in one ready reference document, the information that is likely to be required in the further review of this sale. (Parenthetical references in this summary refer to the full DOD Analysis provided to the Senate Foreign Relations Committee and House International Relations Committee.)

Background (Section I)

Saudi Arabia began developing an air defense system in the mid-1960s after being attacked by aircraft operating out of North Yemen during the Yemen civil war. In 1966, the Saudis purchased an air defense package of British and American equipment that included 46 British Lightning interceptor aircraft, 10 HAWK missile batteries, radar, and communications systems. (Details on pp. I-3 - I-6.)

In the late 1960s and early 1970s, the Saudi Arabian Government began a series of programs to develop and modernize its armed forces. US F-5

fighter aircraft were purchased to replace old F-86 and T-33 aircraft. In the air defense area, the SAG contracted to upgrade its Basic-HAWK batteries to Improved-HAWK and to begin consideration of options to replace the Lightning aircraft that they projected would become obsolete and require grounding prior to 1980.

Late in 1973, the Saudis requested USG surveys of their armed forces to serve as a basis for development of a comprehensive, structured plan for modernization. DOD conducted surveys in 1974 and recommended, inter alia, acquisition of additional I-HAWK batteries, additional F-5 fighters, and replacement of the aging Lightnings with advanced fighter aircraft. In November 1974, USG officials informed the Saudis that the USG agreed in principle to provide Saudi Arabia with an advanced fighter. In 1975, the Saudis requested and received briefings on US advanced fighters (F-14, F-15, F-16, and F-18). In high level contacts during this period, a US agreement in principle to provide an advanced fighter of Saudi choice was reiterated. (For details of USG commitment, see pp. I-9 – I-11.) The SAG selected the F-15 and submitted its formal request to the USG in February 1977. The SAG desires these planes to replace the Lightnings in order to maintain a credible deterrent against the increasingly sophisticated potential threat represented by the significantly larger and better equipped armed forces of several other nations in the region.

Saudi Arabian Air Defense Requirements (Section II)

Saudi Arabia has a land area equivalent to that of the United States east of the Mississippi, with key population centers and petroleum and

resource facilities separated by large distances. The eastern oil-producing region of the country (containing 25 percent of the world's proven reserves) is particularly vulnerable to air attack. To defend this territory, Saudi Arabia has extremely limited manpower resources and the smallest armed forces of any major state in the region. (See II-1 – II-6 and Appendix A.)

Most of the other regional states have air forces much larger than the RSAF. Virtually all are equipped with modern fighter aircraft, such as late model MIG-21s and MIG-23s, capable of conducting air strikes in key areas of Saudi Arabia at any time, to include night or bad weather conditions. (See pp. II-7 – II-21 and Appendix A for threat data.) These aircraft, by flying at low altitudes, can penetrate virtually undetected close-in to vital Saudi areas.

Current Saudi Air Defense System (Section III)

The current Saudi air defense system is inadequate. The radar system is obsolete and there are gaps in radar coverage, both for low level and high level detection. (See pp. III-3 – III-7.) Ground missile/gun defenses are inadequate. The F-5 fills a supporting role as a close-in or point defense fighter in the Saudi environment, but it is not suitable for all-weather or long-range night intercept, particularly since its on-board radar is inadequate to perform a self-contained intercept (p. III-17). The Royal Saudi Air Force (RSAF) currently has three squadrons of British Lightning interceptor aircraft, but the Lightnings are nearing the end of their structural life and are scheduled for phase-out during the period 1979-1981.

Regional states will obtain significant additional numbers of advanced all-weather/night fighters or bombers during the next several years. Absent considerable improvement, the Saudi air defenses will become more inadequate than they are now. (See pp. III-16 – III-18 for discussions on adequacy of current air defense systems.)

Options for Development of Saudi Air Defense (Section IV)

To provide needed flexibility and to maximize the effectiveness of limited Saudi manpower, the 1974 DOD survey recommended development of a mixed force of SAMs and fighter interceptors. One option considered but rejected by the 1974 survey team was solely increasing the number of I-HAWK batteries. For this to be even marginally effective would require a very considerable increase in the number of batteries (as well as anti-aircraft guns). Moreover, these systems are not designed to defend against very high altitude targets, and they cannot quickly move over long distances to counter a new threat. Furthermore, obtaining the required number of additional I-HAWK batteries would take a great deal of time (training and construction of sites and support facilities) as well as acquisition and training of approximately 5,500 technicians, more than five times the requirement for personnel to man advanced fighter replacements to the Lightnings (pp. IV-4 – IV-6).

The alternative to increasing the number of I-HAWKs is to increase the number of fighter aircraft, either F-5s or advanced fighters. By 1981, when the last Lightning will have been grounded, the RSAF should have 107 F-5s. This is not a sufficient number to provide an adequate air defense. Indeed, comparing, by a conservative estimate, F-5 and F-15

capabilities in combat radius, radar coverage, and air-to-air munitions load, the RSAF would have to procure a minimum of eight to nine additional F-5 squadrons in lieu of the three squadrons of advanced fighters they are seeking to purchase. Even assuming such a quantitative "equivalency" were possible, the F-5 does not satisfy the requirement for an all-weather, long-range night intercept capability. Thus, the F-5 cannot adequately perform the intercept mission required of the Lightning replacement. (See pp. IV-6 – IV-9.)

On the other hand, advanced fighters have longer range night intercept capability, wide-coverage radar and all-weather missile launch capability, and can overcome some of the deficiencies in the Saudi radar coverage, particularly (with look-down, shoot-down capability) against low altitude intruders (pp. IV-9 – IV-12).

Leaving manpower constraints aside, a case could be made for acquisition of up to six advanced fighter squadrons (120 aircraft). (See pp. IV-12 — IV-14.) Saudi Arabia has five major areas with vital facilities that are separated from each other by hundreds of miles. A maximum but logical disposition of RSAF fighter/interceptor aircraft squadrons would be one in each of the five major geographical areas, plus a sixth "operational conversion" training squadron to train or convert pilots and technicians to the F-15 system. Six squadrons deployed in this manner would greatly increase Saudi air defenses by providing the enhanced effectiveness of the advanced fighters' capabilities to each of the widely separated vital areas. It would allow overlapping coverage and provide redundancy to compensate for losses. The Saudis, however, recognizing their manpower limitations, have chosen to limit their request to only three squadrons.

In conclusion, the advanced fighter option is the most efficient, logical choice for the Saudis to improve their air defense system, in particular when faced with the grounding of their aging Lightnings and the vulnerabilities of their ground environment. It maximizes the capabilities that can be developed as a credible deterrent and defense against an air attack.

Advanced Fighter Options (Section V)

The current American fighter options which can be termed "advanced fighters" include the F-14, F-15, F-16, and the F-18. These aircraft contain the latest technology in fighter aircraft, possess high performance capabilities, and incorporate ease of operation with ease of maintenance.

Among the different advanced fighters, there are variations in characteristics and capabilities. The F-16, for example, is a more effective air-to-ground aircraft than is the F-15. The Saudis sought an aircraft that has extensive radar coverage with a look-down, shoot-down capability able to conduct a defense at beyond visual range in all weather, day or night conditions; an all-weather missile capability; two engines; and a need for only a single crew member. The F-15 meets all these requirements.

Appropriateness of Saudi Request for 60 F-15s (Section VI)

Each of the Saudi requirements is reasonable, given the Saudi military situation. Limits of their ground radar require that at least some of their aircraft have extended radar coverage for all-weather and night operations with good look-down, shoot-down capability against

low-level attacking aircraft. The F-5 radar does not provide adequate coverage. The F-16 has a much better radar capability than the F-5, but less than the capability of the F-15. Neither the F-5 nor the F-16 as currently configured have an all-weather missile capability. The F-16 has only one engine, and the F-14 requires a two-man crew. Of the US aircraft potentially available in 1981-1982, only the F-15 and the F-18 meet all of the Saudi requirements. The F-18, however, is still in the development stage and would not, in fact, be eligible until a later date, given Administration policy requiring prior deployment with US forces.

The Saudis have the ability to absorb three squadrons of F-15s by the RSAF if introduction of the system in-country begins in CY 1982. In terms of raw numbers, manning requirements for 60 F-15s are estimated to total approximately 975 (900 technicians and 75 pilots). To insure that absorbability requirements are met, however, impact on other programs and required skill levels must be considered.

To achieve self-sufficiency in the current F-5 program requires 1,650 Saudi technicians qualified at the intermediate/supervisory skill levels. By early 1979, the RSAF should have over 1,650 men assigned, and by 1981, they should have reached the required level of proficiency. The Lightning program currently has 500 RSAF technicians assigned, and there are 885 with the F-5s. There is a special technician training program underway in the United States that should produce 1,000 technicians by April 1981, and during the same period, the in-country RSAF school should provide another 500 technicians for the fighter force, for a total of 2,885 fighter technicians against a requirement for a total of 2,550.

Some contractor training and support will be required. It is estimated that 500 to 600 contractor personnel will be required for initial introduction of the system in-country, and that this number would peak at about two years after the RSAF receives the first F-15. Based on current training projections, there will be adequate RSAF pilots to man both the F-15 and F-5 fighter forces by October 1981 (VI-5 - VI-9).

The F-15 aircraft proposed for sale to the Saudis would be essentially the same configuration as delivered to the US Air Force, less those items of equipment not approved for release under the National Disclosure Policy. (Details are at pp. VI-18 - VI-19.) Munitions requirements are discussed on pages VI-10 - VI-16 of the classified analysis.

Impact of F-15 Sale on Regional Arms Balance (Section VII)

Saudi Arabia now has and will continue to have the smallest inventory of combat aircraft in the area with the exception of Jordan and the PDRY. Iraq, Iran, Israel, Syria, and Egypt all have air forces three to four times as large as that of Saudi Arabia, and all now have advanced fighter aircraft which the Saudis would not have operational in-country until 1982-1983. Accordingly, the Saudi replacement of their Lightnings by 60 F-15s will not materially affect the regional balance of air forces. If, however, the Lightnings are not replaced with advanced fighters, then Saudi Arabia will be placed in a position of even greater quantitative and qualitative inferiority than currently is the case (pp. VII-1 - VII-4).

It is highly unlikely that the purchase of the F-15s by Saudi Arabia would have any impact on any future Arab-Israeli conflict. The Saudis have historically avoided actual combat in Arab-Israeli wars. In 1976, they withdrew the limited land forces that they maintained in Syria and Jordan partially in order to avoid entanglement in a possible future conflict. The SAG places great value on good relations with the United States and realizes that the present close US-Saudi relationship would be at risk if they did actively engage in an Arab-Israeli war. Moreover, use of the F-15s against Israel would leave Saudi territory extremely vulnerable to air strikes from Israel at the same time it invited Israeli retaliation.

Transfer of Saudi F-15s or associated munitions to third countries is not only legally prohibited under the terms of Foreign Military Sales Act unless specifically approved by the USG, but, for a variety of practical reasons, the transfer of the F-15 and its equally modern support equipment to another Arab country is not feasible. For example, support of the system requires highly trained technicians; any attempt by Saudi Arabia to conduct this training for technicians from a third country could easily be detected and dealt with as appropriate to the circumstances. Most importantly, it would be illogical for the Saudis to transfer their best defensive system to another country and leave their oil fields, seaports, and cities vulnerable to air attack while by the same action inviting retaliation.

There is no doubt that Saudi Arabia is determined to replace the Lightnings with advanced aircraft. If the sale to Saudi Arabia of the

US advanced fighter of their choice is denied, the most probable alternative for the SAG would be to turn to France for acquisition of the Mirage F-1 or its follow-on as their advanced fighter. This action would deny the United States any control over the use or transfer of the aircraft and its weapons systems, as well as giving the SAG an aircraft which, unlike the F-15, is or will be in the inventory of other Arab states, such as Iraq.

In conclusion, the sale of 60 F-15s to Saudi Arabia is fully consistent with US national interests. This sale should not have a significant impact on the Middle East arms balance or pose a threat to Israel, but rather it would act as a stabilizing influence by providing the Government of Saudi Arabia an improved means of defending their national resources and geographical boundaries, while allowing the US a measure of control over use of this means.